Beam Power Tube

NOVAR TYPE

SEPARATE GRID-No.3 BASE-PIN TERMINAL FOR "SNIVETS" CONTROL[a]

For Horizontal-Deflection-Amplifier Service in Low-B+ Black-and-White TV Receivers

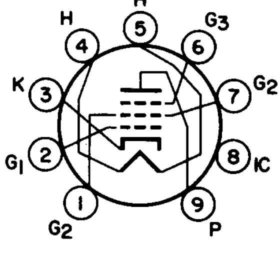
Electrical:

Heater Characteristics and Ratings:		
Voltage (AC or DC)	6.3 ± 0.6	volts
Current at heater volts = 6.3	1.600	amp
Peak heater-cathode voltage:		
Heater negative with respect to cathode	200 max.	volts
Heater positive with respect to cathode	200[b] max.	volts
Direct Interelectrode Capacitances (Approx.)[c]		
Grid No.1 to plate	0.7	pf
Input: G1 to (K,G3,G2,H)	22.0	pf
Output: P to (K,G3,G2,H)	9.0	pf

Mechanical:

Operating Position	Any
Type of Cathode	Coated Unipotential
Maximum Overall Length	3.130"
Seated Length	2.500" to 2.750"
Diameter	1.438" to 1.562"
Dimensional Outline	See *General Section*
Bulb	T12
Base	Large-Button Novar 9-Pin with Exhaust Tip (JEDEC No.E9-88)
Basing Designation for BOTTOM VIEW	9QU

Pin 1 - Grid No.2
Pin 2 - Grid No.1
Pin 3 - Cathode
Pin 4 - Heater
Pin 5 - Heater
Pin 6 - Grid No.3
Pin 7 - Grid No.2
Pin 8 - Do Not Use
Pin 9 - Plate



Characteristics, Class A_1 Amplifier:

	Triode Connection[d]	*Pentode Connection*		
Plate Voltage	125	50	130	volts
Grid No.3	*Connected to cathode at socket*			
Grid-No.2 Voltage	–	125	125	volts
Grid-No.1 Voltage	-20	0	-20	volts
Amplification Factor	4.1	–	–	
Plate Resistance (Approx.)	–	–	12000	ohms
Transconductance	–	–	10000	μmhos
Plate Current	–	525[e]	80	ma
Grid-No.2 Current	–	32[e]	2.5	ma
Grid-No.1 Voltage (Approx.) for plate ma = 1	–	–	-40	volts

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HORIZONTAL-DEFLECTION AMPLIFIER

Maximum Ratings, *Design-Maximum Values:*

For operation in a 525-line, 30-frame system[f]

DC Plate Supply Voltage	770 max.	volts
Peak-Positive-Pulse Plate Voltage[g]	6500 max.	volts
Peak Negative-Pulse Plate Voltage	1500 max.	volts
DC Grid-No.3 (Suppressor-Grid) Voltage[a]	75 max.	volts
DC Grid-No.2 (Screen-Grid) Voltage	220 max.	volts
DC Grid-No.1 (Control-Grid) Voltage:		
Negative-bias value	55 max.	volts
Peak Negative-Pulse Grid-No.1 Voltage	330 max.	volts
Cathode Current:		
Peak	950 max.	ma
Average	275 max.	ma
Grid-No.2 Input	3.5 max.	watts
Plate Dissipation[h]	17 max.	watts
Bulb Temperature (At hottest point on bulb surface)	220 max.	°C

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:		
For grid-No.1-resistor-bias operation	2.2 max.	megohms

a A positive voltage may be applied to grid No.3 to reduce interference from "snivets" which may occur in television receivers. A typical value for this voltage is 30 volts.

b The dc component must not exceed 100 volts.

c Without external shield.

d With grid No.2 connected to plate at socket.

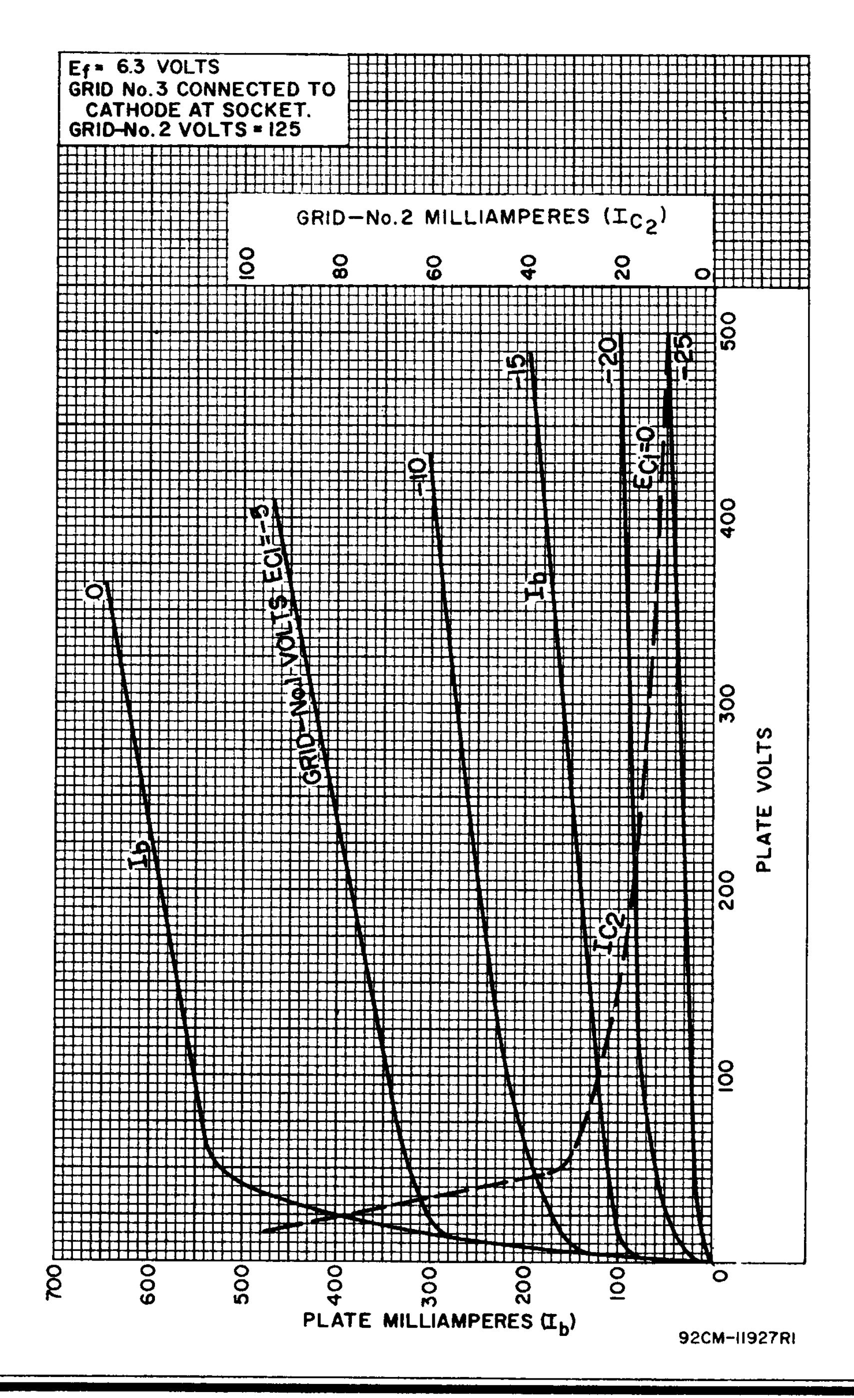
e This value can be measured by a method involving a recurrent waveform such that the maximum ratings of the tube will not be exceeded.

f As described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations, "Federal Connunications Commission.

g This rating is applicable where the duration of the voltage pulse does not exceed 15 per cent of one horizontal scanning cycle. In a 525-line, 30-frame system 15 per cent of one horizontal scanning cycle is 10 microseconds.

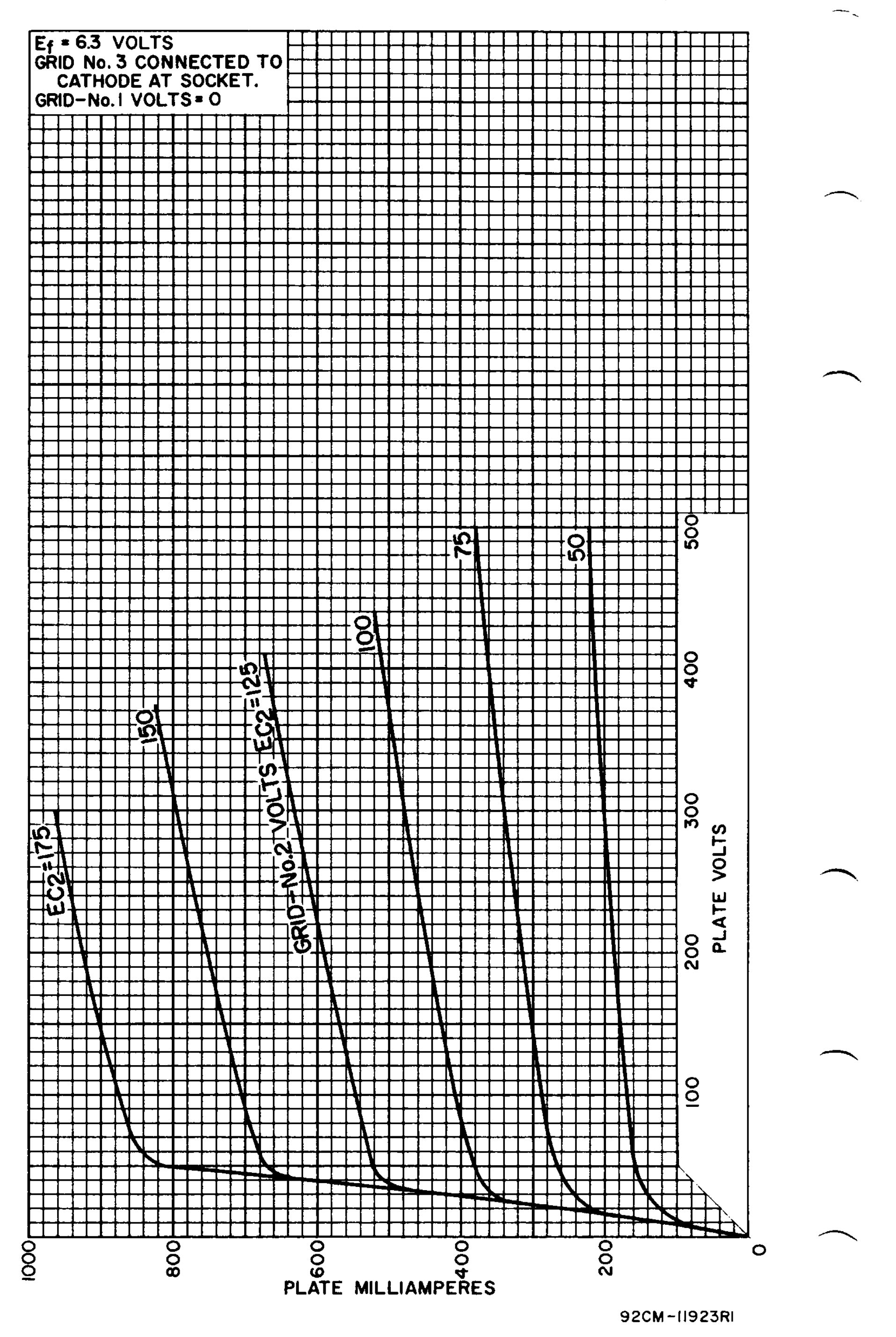
h An adequate bias resistor or other means is required to protect the tube in the absence of excitation.

AVERAGE CHARACTERISTICS



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AVERAGE PLATE CHARACTERISTICS



92CM-11923R1